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ABSTRACT

Evaluation training materials developed by federally funded research and development laboratories were surveyed, analyzed, and described. This project included the collection and analysis of training materials, and the development of The Consumer's Guide to Evaluation Training Materials. This final report describes the rationale, purpose, and activities of the project and the consumer's guide, and includes a sample of the product descriptions included in the guide. The analysis of the evaluation training products and a description of the relationships between these products are also discussed. A list of titles evaluated in the guide, an index to these training materials, and an analysis of the training materials produced by each research and development laboratory are appended. (Author/GDC)

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A Final Report

on the

Analysis and Reporting of Evaluation Training Materials

developed by R&D Laboratories and Centers

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FINAL REPORT

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THE ANALYSIS AND REPORTING OF EVALUATION TRAINING MATERIALS

developed by R&D Laboratories and centers

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U.S. DEPARTMENT OF
HEALTH, EDUCATION AND WELFARE
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BASIC SKILLS

ABSTRACT

The Analysis and Reporting of Evaluation Training Materials Project was conducted to survey, analyze, and describe evaluation training materials developed by federally funded R&D Laboratories and Centers.

Its work fell into three phases. The first, Design of an Information System, included the identification and collection of materials. During the second, Information Analysis and Development, a conceptual framework was developed to use in product analysis, and was applied to the materials collected. Product descriptions were prepared, alternative configurations of use were described, and sets of corresponding training materials identified. This phase had two major outcomes: The Consumer's Guide to Evaluation Training Materials, which includes descriptions of 38 products and an index; and an analysis of content, approaches, and relationships among products, both of which are described in this report. The third phase consisted of delivery to NIE of the revised Guide, this Final Report, and a display of materials.

The Final Report includes a description of the project's rationale, purpose and program, a description of the Consumer's Guide with the Index and sample product descriptions, and a report on the analysis of the training materials included in the Guide.

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CHAPTER ONE: RATIONALE, PURPOSE AND PROGRAM OF THE PROJECT

During the past decade the pressure on educators to improve the effectiveness of education, to assure quality and to be accountable for the usefulness of every dollar spent has increased dramatically. In response to this pressure, school people are actively seeking ways to find out what education should be achieving, what it is achieving in fact and where change is necessary. This chapter elaborates upon the need for a convenient, comprehensive and up-to-date source of information about evaluation training materials and explains the objectives and program of the project that was undertaken by Far West Laboratory in an attempt to meet that need.

I. The Need

The traditional approach to evaluation, which focuses on the collection and analysis of data, is not sufficient to meet the needs discussed above. Rather than enlightening anyone, the variety of new evaluation philosophies and approaches often adds to uncertainty. Which approach should one choose and how should that approach be mastered?

Emerging needs and perceptions have been only slowly reflected by training programs in higher education (the traditional source of educational training). Furthermore, evaluation competence is often desired by people for whom it is not convenient to go back to school.

As these needs have become apparent, a variety of organizations, from educational R&D Laboratories and Centers to university departments of

education and commercial publishers, have seized upon one aspect or another of the problem and developed materials and programs intended to help solve it. The result is an array of products of great variety addressing the need for training in evaluation skills.

Because of the plethora of material, the educational manager is faced with a number of problems:

- he or she often does not know what evaluation training materials are available;
- product specifications often do not communicate exactly what the product is intended to do;
- product descriptions do not always make clear their scope and requirements in terms of time, money, and commitment;
- product advertising is often the only source of information on how successful the product is, and under what conditions.

Furthermore, those who are responsible for making decisions about what kinds of evaluation training development should be supported have no systematic and comprehensive information that will tell them which areas are <u>not</u> covered and which areas are dealt with and to what extent.

There is an undeniable need for convenient, comprehensive and accurate sources of information about evaluation training materials. Although catalogues and resource lists exist in which many of these materials are described, there is still no source that will help a prospective user solve all the problems listed above.

II. Statement of Purpose

The project described in this report attempted to meet the needs of both users and funders of developing evaluation training materials. The NIE staff considered this work essential to the needs of the Basic Skills Division of NIE in general, and in particular, to the needs of Measurement and Methodology for information that would help it coordinate development of evaluation materials by Laboratories and Centers and improve the methodological quality of future evaluation training products.

The project which Far West Laboratory conducted had as its goal a survey, analysis and description of evaluation training materials developed by Educational Laboratories and R&D Centers. This survey and analysis provided information that can be used by educators in making decisions about using these materials and by NIE staff in considering the need to continue or promote the development of new materials in this area.

Since the development of these materials has been supported primarily by public funds, it is particularly important that knowledge about them be made available to the students and professionals in education for whom they were intended. One result of the current project should be to assist in disseminating information about products already paid for by the tax-payer.

For the same reason, if future spending in this area is to be cost-effective, new projects chosen for support should be aimed at areas within evaluation training that are inadequately covered now.

III. The Program of the Project

The program of the project can be reported in the following three phases:

Phase 1: Designing an Information System. This phase, which occupied the spring of 1976, was devoted to designing a system for collecting and analyzing evaluation training materials. It included working with NIE staff to develop a frame of reference for the collection of such information; using this information to identify appropriate materials for consideration; surveying other sources of information for names of appropriate materials; reviewing literature that described evaluation competences and specified ascertaining user groups' perceptions of training requirements and competence areas; and synthesizing the information gleaned from these activities to develop a list of materials to be analyzed and criteria for analysis.

Phase 2: Information Analysis and Development. The three main tasks performed during this phase were the collecting and analyzing of the materials and information about their use; defining and describing alternative configurations of use and sets of training materials that correspond to each other; developing an organized description of the materials reviewed and analyzed; and reporting this information.

Over one hundred training products and programs were considered and reviewed. Of these descriptions, thirty-eight products or programs were prepared to go into a Consumer's Guide to Evaluation Training Materials. These descriptions were reviewed by developers, consultants and NIE staff and information on the history and evaluation of each product were collected. A sample description is included in Appendix A. An index for classifying and analyzing products was also developed. The index is included in Appendix B.

A conceptual map was also developed as framework for presenting an analysis of content, approaches and relationships among products. Chapter Three deals with this activity.

Activities in this phase included further revision and review of product descriptions, the addition of evaluative comments, and additional development and refining of the analytical tables.

Phase 3: Delivery to NIE of a Consumer's Guide and Report and Recommendations. In this phase, the project delivered to NIE copies of the Consumer's Guide and a technical report that included recommendations for criteria and procedures for determining the quality of training materials as well as for deciding which areas merit continued development and which have been insufficiently covered and thus need new development.

A display of training products included in the Guide was also prepared and sent to NIE.

CHAPTER TWO: DESCRIPTION OF THE CONSUMER'S GUIDE

This chapter reports upon the content and format of the Consumer's Guide after identifying the audience that would make best use of the information covered. Several criteria for the inclusion of materials are presented, followed by an explanation of the types of material included, the method of presentation, sources of information and suggested usages.

1. The Target Audience

The Guide was written to help all those who need information on and training in some aspect of evaluation. Although the primary users of the Guide will be professionals who seek materials to train other people in the various dimensions of educational evaluation, other users will probably include school administrators, other school-staff members participating in an evaluation or coordinating evaluation efforts, school or community people serving on evaluation committees, program or product developers who need to test their work and entry professionals preparing for careers in education.

2. Criteria for the Inclusion of Materials

Because NIE wanted information on products developed under its own sponsorship before exploring products developed by others, the first criterion for inclusion was that the product presented had been developed by a Laboratory or R&D Center. It is anticipated that in an extension of this project, materials developed by university departments of education, commercial publishers, independent developers and others will also be covered.

The second requirement was that some part of the product presented deal with an aspect of the evaluation process or a skill used therein. Most materials address either the tasks involved in a given stage of evaluation, such as summative or outcome evaluation, or a skill, such as evaluation planning, that can be applied at any one of several points during an evaluation effort. The materials presented are also limited to those that deal with some aspect of the educational process (curriculum, goals, programs, etc.), rather than with the assessment of personnel involved in that process.

The third and final criterion was that a product must provide evaluation training of some kind, rather than merely exploring the subject of evaluation, proposing an approach or philosophy or reporting findings. Thus, all the materials presented are specifically oriented toward users who expect to participate in the evaluation process and most provide for user involvement.

3. Types of Materials Included

Materials are presented at three hierarchical levels--program, component and modular--depending on their degree of appropriateness and their separability from other materials or larger configurations.

Included in the program level are groups of related products. These materials may have various titles ("program," "series," "system" or "resources"), depending on the developer involved. Products may also exist at the component level--a component being a product that can stand alone. Here, too, titles may differ, with some developers using "systems" to refer to materials of this type, and others using "series," or presenting the components as a numbered section of the program or by simply naming them. Those components mentioned as part of a program will be described in their own right if they include evaluation training. Similarly, subdivisions or sections of

components that focus on evaluation training and can be used independently as modules may also be described independently.

4. How the Material is Presented

The Guide consists of an introduction, an index to the materials included, a list of the materials summarized and the summaries themselves. Because the Guide is designed to meet the needs of the evaluator/user, it differs from the NIE catalogue in the following ways:

- All materials with evaluation content or aspects are included, even if evaluation is not their primary focus.
- The nature of evaluation training is described and the approach to evaluation summarized.
- The Guide's index allows product selection according to a number of factors, ranging from target audience to type of evaluation needed.

a. The Index

The index is designed to help the user quickly locate the summary (or summaries) describing the evaluation training materials that best suit his or her needs. Materials are thus classified according to three major characteristics: intended users, focus and type of evaluation.

The first heading, intended users, helps one find products that should be considered if the user belongs to or is working with a particular group (trainer, administrators, community people, etc.). Since many of the materials have been designed for use by more than one group, the fact that a product is not listed under a specified group does not necessarily imply that the product would be inappropriate. It merely indicates that the developer did not identify that group as the intended user.

The second characteristic, focus of materials, helps one locate products that address one or several specific content areas (curriculum, instrumentation, attitudes, etc.) that are part of or associated with evaluation. The third heading, type of evaluation, assists the user in finding materials that address the stage or stages of evaluation that interest him or her (needs assessment, planning, formative or summative evaluation).

b. The Summaries

Following the index are the product summaries. This version of the Guide includes 38 products developed by the Center for Educational Policy Management (CEPM), The Center for the Study of Evaluation (CSE), Far West Laboratory for Educational Research and Development (FWL), the Northwest Regional Educational Laboratory (NWRL), Research for Better Schools, Inc. (RBS), Southwest Educational Development Laboratory (SEDL) and Southwest Regional Laboratory (SWRL).

Sections that include all products by a given agency are arranged alphabetically according to an acronym composed of the product developer's initials and a number. Thus, CEPM 1 would be the first listed product developed by the Center for Educational Policy Management. This arrangement facilitates the addition of new products and new agencies to the Guide without having to change page numbers.

The summaries themselves have a uniform format to make it easier for the user to compare them. The description of each product appears under a number of headings that are intended to provide all the information a user would need in order to make a choice. Although non-technical language is used wherever possible, there are times when only a specialized term can convey the desired meaning. For this reason, a sample two-page product summary that explains

the kind of information to be expected under each heading, is included. It appears here on pp. 12-13.

5. Sources of Information

Information about the materials in this Guide came from the agencies that developed them and the materials themselves. No matter where the information originated, completed summaries of the material were sent to the developing agencies for comment and revision. Since the work was done during the summer and fall of 1976, the materials presented in this Guide are as accurate and up-to-date as of that time.

6. Using the Guide

Although users of the Guide can simply leaf through it to see what types of evaluation training materials exist, most readers will probably turn straight to the products that are most likely to meet their needs. This can be accomplished by using the index to identify the summaries that would be most suitable. One can then find the summaries in the Guide.

For example, suppose the superintendent of a medium-sized school district wants to teach his or her own staff to evaluate the junior high school curriculum because budget limitations preclude hiring an outside professional. He or she would begin by checking the section of the index headed "Intended Users." After discovering that a large amount of materials are intended for use by school staff members, he or she would then move down to "Focus of Materials" to find out which of these products are aimed at curriculum evaluation and to "Type of Evaluation" to see which materials cover formative and summative evaluation. By this time, the superintendent has narrowed his or her list to a half dozen products that fulfill all three criteria. These are identified by initials that stand for the developer's name and numbers

referring to the products' placement within each section. Thus, when the superintendent wants to find CSE 5 and 6, he or she turns to the Center for the Study of Evaluation section, finds the fifth and sixth product summaries, reads them, notes such information as cost and provisions for use and then goes on to look at RBS 3, SWRL 5 or at whatever other sections have been suggested by cross-checking products under "intended users," "focus of materials" and "type of evaluation." After comparing the various product summaries and figuring out which programs are likely to meet his or her district's needs, the superintendent can write to the address given under "Availability" and secure more information about the product or obtain the product itself. The next two pages introduce the scheme in which the description of products was developed for the Guide.

PRODUCT TITLE (INITIALS if any)
(name of larger program product is a part of, if any)

INTENDED USERS

The target audience, or people at whom the product is more specifically aimed, and for whom it will presumably work best.

TYPE OF EVALUATION ADDRESSED

The stage of evaluation and/or evaluation skills for which training is being provided in this product. The main stages of evaluation which may be listed are:

a) preformative - needs assessment, context assessment, program planning, and any other activities that take place before or early in the development of a product or program.

b) formative - evaluation that takes place during product or program development or that is intended to improve a program that is currently in operation.

c) summative - evaluation that takes place after a product or program has been completed and put into operation, whose purpose is to determine its worth and provide information for the decision on whether to continue or terminate it.

The main skill areas that may be listed are:

a) technical - instrument development, research design, data analysis.

b) interface - interpersonal relations, communication of evaluation results.

c) administrative - planning, coordinating, or monitoring the evaluation process.

APPROACH TO EVALUATION

The basic assumptions about the nature and purpose of evaluation upon which the developers of this product have based their work.

MAIN EMPHASIS

A brief summary of product content, which should indicate, among other things, what proportion of the materials are devoted to evaluation training.

GOALS AND OBJECTIVES

What the materials are expected to teach a user to do.

MAIN ACTIVITIES

What sorts of things the user will be doing to enable him to achieve the objectives--this heading would include specific learning tasks or the instructional approach used.

PROVISIONS FOR USE

A. Format: Possibilities include workshop, self-instructional, college course, on-the-job training, etc.

B. Personnel: This section indicates who, in addition to the learner himself, or herself, must be present for learning to take place.

C. Product Components: The number and nature and titles of the physical materials involved, including handbooks, instructor's guides, worksheets, and any other required materials.

D. Resources: Any other items, aspects of the setting, etc., which are necessary to use the materials. Possibilities here would include a meeting room of a certain size, copying facilities, etc.

E. Time Span: How long it takes the average user to complete the materials.

F. Conditions of Use: Conditions which should be present in order for the materials to be used effectively, particularly any commitment or attitudes which should be present in users or those responsible for the training.

ADAPTABILITY

A brief indication of any environments or user groups other than those for which the materials were originally intended with which they can be successfully used.

RELATED PRODUCTS

Other evaluation training materials that are similar or related to this one.

COST

How much it costs for the materials themselves or for implementation of a program of which they are a part.

AVAILABILITY

Where to write to obtain the materials or information about them.

HISTORY AND EVALUATION

A brief account of how the materials were tested or otherwise evaluated, with the results. This information may not be available for all products.

COMMENT

A note by the developers of this Guide which includes any information not covered under any other heading, a general assessment of the product's usefulness, and any qualifications to that usefulness which scrutiny of the product may have revealed.

CHAPTER THREE: A REPORT ON THE ANALYSIS OF TRAINING MATERIALS INCLUDED IN THE GUIDE

Supported by the National Institute of Education, the Far West Laboratory conducted a survey and analysis of evaluation training materials developed by educational laboratories and R&D centers with the goal of producing a consumer guide with descriptions of individual products for potential users and a technical paper for NIE to aid decisions about desirable directions for future product development. The consumer guide has gone through cycles of review and revision and has been submitted to NIE and selected expert reviewers for further critiquing prior to final revisions. Even in its "final" form, however, it is viewed as an open system that can be added to as new evaluation training products become available or if the scope of products included in our analysis broadens with further funding from NIE. This Technical Report provides: (1) a conceptual framework of the evaluation process and the educational domain in which educational evaluation can be performed; (2) a classification of the evaluation training materials analyzed in the course of the project in terms of gaps and overlaps in coverage; and (3) a set of sample configurations of use of specific training materials to meet certain configurations of evaluation training needs.

I. A Conceptual Framework of Educational Evaluation

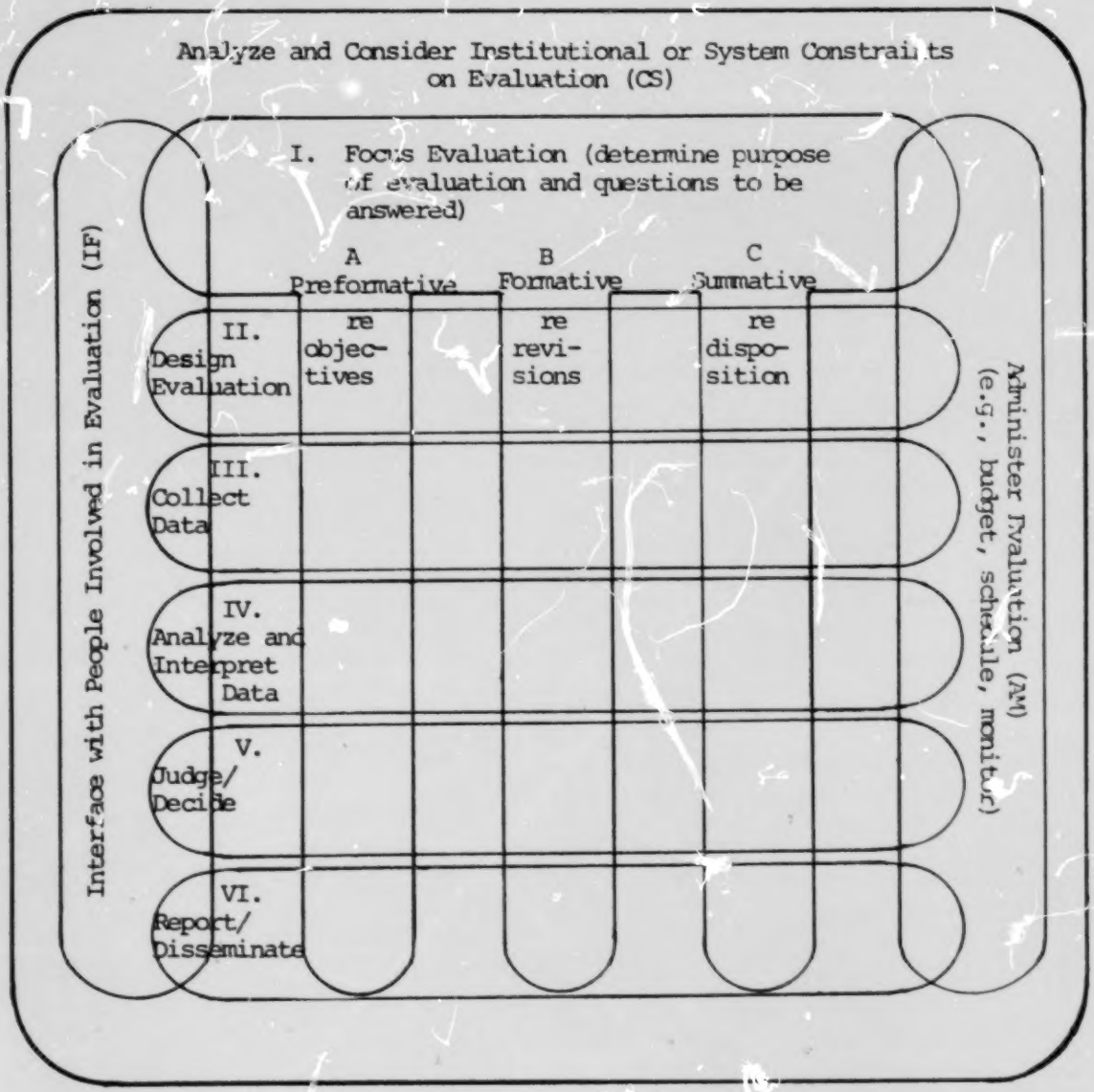
In order to provide NIE with information regarding the areas of educational evaluation which are and are not covered by the evaluation training materials produced by educational Laboratories and R&D Centers, we found it useful to develop a "conceptual map" (Figures 1 and 2) characterizing areas of evaluation and their interrelationships. Since the map was intended to represent the universe of educational evaluation on which evaluation training materials could be located, we sought a variety of sources of information about concepts and aspects of evaluation from which to develop it. The most helpful sources were: the literature on evaluation philosophies/models and methods, our own extensive experience in conceptualizing and conducting evaluations in educational contexts, and our preliminary analyses of the existing R&D evaluation training materials. We found it useful to distinguish two major dimensions or layers of the map: (1) the evaluation process dimension (Figure 1), and (2) the educational domain in response to which evaluations are conceived and conducted (Figure 2). These two dimensions permit analysis and classification of materials from a broad systems perspective and make possible the development of detailed information for decision-making about further directions for materials development. In addition, this conceptual map of the "evaluation universe" could facilitate understanding of the relationships among the many diverse definitions or concepts of evaluation now prevalent and could suggest possible synthesis or alternative conceptions. Hopefully, then, the map will prove interesting and useful in organizing, clarifying, and extending the concepts of evaluation as well as in providing a framework within which to describe and analyze existing evaluation training materials.

Below we present a description of the elements and structure of the map. We will then describe how the map was used to analyze and classify the training materials in order to demonstrate gaps and overlaps in coverage of the areas and types of educational evaluation.

A. Evaluation Process Dimension of the Conceptual Map

There is considerable disagreement as to what evaluation is and how it should be carried out. However, most evaluators would probably agree that evaluation could be described as the gathering of information about phenomena (programs, products, policy, etc.) in order to make or help make decisions or judgments about those phenomena. Concepts as divergent as "evaluation as judgment," "evaluation as information management oriented toward generating data for decision-makers," and "evaluation as comparison of performance with behavioral objectives" can be fit into this broad concept of evaluation. The evaluation process dimension of the conceptual map (Figure 1) represents this broad concept. The activities numbered II-VI on the map could be called the "technical" aspects of the evaluation process. Most models of evaluation include these activities as part of the role of an evaluator although some models (e.g., the decision-facilitative model) would consider the making of judgments or decisions to be the responsibility of the administrator rather than of the evaluator. The numbers II-VI imply a likely sequence of those activities: design of the evaluation, collection of data, analysis and interpretation of data, the making of judgments and decisions based on the data analysis, and the reporting of conclusions, recommendations, or decisions derived from the data analysis. Design of the evaluation (II) refers to the

FIGURE 1. EVALUATION PROCESS DIMENSION


Analyze and Consider Institutional or System Constraints on Evaluation (CS)
I. Focus Evaluation (determine purpose of evaluation and questions to be answered)
A Preformative
B Formative
C Summative
II. Design Evaluation
re objectives
re revisions
re disposition
III. Collect Data
IV. Analyze and Interpret Data
V. Judge/ Decide
VI. Report/ Disseminate
Interface with People Involved in Evaluation (IF)
Administer Evaluation (AM) (e.g., budget, schedule, monitor)

planning of the activities to be carried out in the evaluation. Though "design" is most commonly used to refer to data generation activities (e.g., sampling procedures, experimental design such as use of pre-post measures), it can involve the planning of any of the evaluation activities (e.g., how the final evaluation report will be structured and presented). Collection of data (III) includes instrument development or selection (e.g., choice of test format, normative vs. criterion-referenced testing, simulation exercises) and evaluation procedures (e.g., content analysis, field testing). Analysis and interpretation of data (IV) can involve statistical and non-statistical methods for summarizing data and/or for drawing inferences from it. Judgment/decision-making (V) involves specification and use of criteria and standards for making judgments or decisions based on collected and analyzed information. Reporting or disseminating (VI) involves communication (by such devices as evaluation reports, workshops, news releases) of summaries, conclusions, recommendations, or judgments to various "consumers" (e.g., developers, users, funders).

Figure 1 indicates that these technical evaluation activities are preceded by another activity--focusing the evaluation (I). Before methods of conducting the evaluation can be planned or carried out, it is necessary to determine the purpose or purposes of the evaluation: What kinds of questions is the evaluation trying to provide answers for, what kinds of decisions are going to be made on the basis of the evaluation findings, what kinds of information are needed. Figure 1 indicates three major types of evaluation, each of which is conducted for different purposes to answer different kinds of questions and to facilitate different kinds of decisions. Preformative evaluation (A) is oriented to decisions or judgments about the needs for the program (or product or whatever phenomenon is to be evaluated) and about how the program

should be designed (including goals and objectives) in order to meet those needs. Preformative evaluation is done before producing or developing the program. (In this discussion of the purposes or types of evaluation, we will speak of evaluating programs, but this is only to simplify the discussion. The educational domain dimension of the map--Figure 2--indicates many other phenomena besides programs that could be the target of evaluation.) Formative evaluation (B) is that conducted during the developing and is oriented to decisions about making revisions in the program. Summative evaluation (C) is accomplished after the developing is completed and is directed toward judgments or decisions of program disposition (e.g., termination, adoption, extension, expansion). Evaluation of an educational phenomenon could include any or all of these types. The A, B, and C "fingers" of the focus activity extending across activities II-VI indicate that focusing an evaluation not only precedes the other evaluation activities, but continues to occur throughout the other activities and interacts with them. For example, in analyzing the data previously collected or in reporting conclusions or recommendations, the purposes of the evaluation and the questions to be addressed must be carefully kept in mind. The content and/or procedures of design, data collection, data analysis, decision-making, and dissemination may differ substantially depending on the evaluation's purpose.

Though Figure 1 indicates that part of the focusing of an evaluation is ascertaining and specifying its general purpose, i.e., determining needs (preformative), revisions (formative), or disposition (summative); focusing also involves determining specific purposes and types of questions to be answered (e.g., how do users like the program, how much do users learn from the program) which will enable the general purposes of the evaluation to be achieved. Part

of determining this specific focus involves communication with potential users of the evaluation information to identify their needs. Interpersonal relations and communication is represented in Figure 1 by interface. The interpersonal contact to help focus the evaluation is represented by the overlap of focus and interface (IF). The overlap of the interface aspect of evaluation with activities I-VI indicates that interface concerns accompany each of these evaluation activities; the needs, attitudes, experience, and capabilities of the people from whom information is to be gathered and of those will use the evaluation information have to be considered throughout the evaluation process in order to conduct the evaluation smoothly and effectively. For example, ethical considerations of the personal privacy and/or psychological health of respondents to questionnaires or tests would be represented on the evaluation process dimension of the conceptual map by the overlap of interface and collection of data. The consideration of characteristics (e.g., level of sophistication, attitudes) of the audience for a final evaluation report so that when it is presented to that audience it will be understood and acted upon is represented in Figure 1 by the overlap of interface and report/dissemination. Even an evaluator's analysis and interpretation of data, which is often performed without input from potential users of the evaluation, could (and perhaps should) be influenced by communication with those users, for clarification or modification of user needs may lead to revision or expansion of data analysis. We perceive the evaluation process, then, as requiring interpersonal skills (interface) as well as technical procedures skills.

Figure 1 also indicates that administration (e.g., scheduling, budgeting, monitoring) of the evaluation occurs throughout. Regardless of the purpose or type of evaluation, all evaluation activities must be administered. This

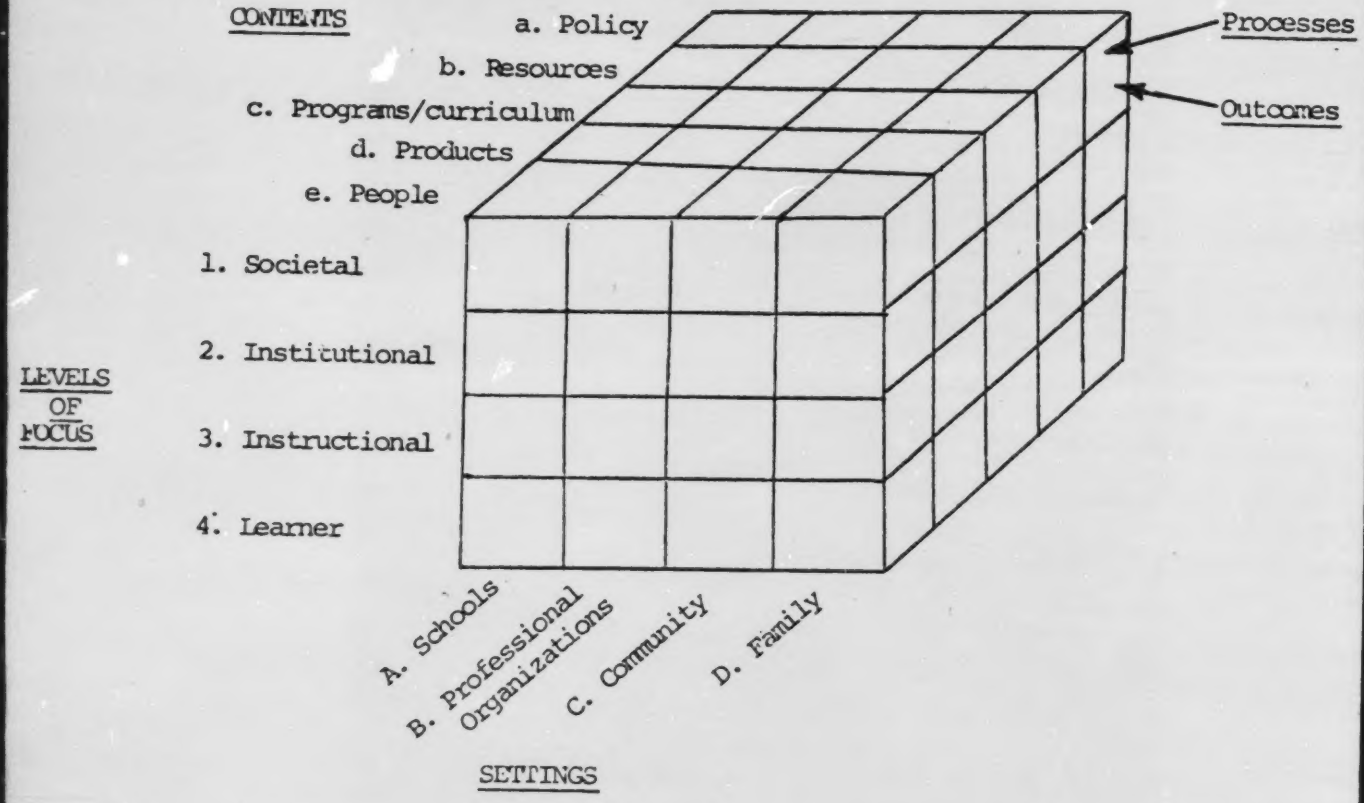
is represented in Figure 1 by the overlap of administer evaluation and the other evaluation activities.

The entire evaluation process takes place within and is influenced by institutional or system constraints such as the degree of economic dependence or independence the evaluator has from the program being evaluated or the political or economic influences on what questions can be asked and what types of answers will be accepted.

The evaluation process dimension of the conceptual map is intended to represent the interrelations of the full range of processes considered by diverse theorists and practitioners to comprise evaluation. Evaluation training materials reflecting diverse concepts of evaluation can be analyzed and classified according to their location on this dimension of the map. Such classification should provide NIE with information about the distribution and density of coverage of process areas of evaluation by existing R&D evaluation training materials. This information should then be useful in making decisions about directions for further materials development.

There is, however, a second dimension of the conceptual map which should be considered in characterizing the distribution and density of the R&D evaluation training materials and in deciding on directions for future development of materials. This second dimension (represented in Figure 2) is the overall domain of education and its various components within which the evaluation process operates. Although there are many ways of conceptualizing the domain of education, we feel the following framework is useful for the purposes of this paper, for it is relatively simple, yet allows differentiation between evaluation training materials on the basis of the aspect of education being evaluated in those materials.

Figure 2. Domain of Education Dimension



B. Domain of Education Dimension of the Conceptual Map

The domain of education (Figure 2) operates as a complex system of components that engage in various processes and produce various outcomes. The term processes refers to the dynamic interactions both within and among the components of the system. These are usually expressed or manifested in terms of procedures, relationships, or methods. The term outcomes, on the other hand, refers to the results of the interactions of the components. Outcomes are usually expressed in terms of achievement, quality, gain, effectiveness, etc. One way of conceptualizing the components of the education domain within and among which these processes and outcomes occur is as follows:*

1. Settings (within which the education processes or outcomes occur)
   - 1.1 Schools--includes all formal educative organizations: public and private schools (K-12), junior colleges, public and private colleges and universities, trade and business schools.
   - 1.2 Professional organizations--includes business and industrial organizations, state or intermediate educational agencies, R&D centers and laboratories, professional associations.
   - 1.3 Community--includes various neighborhood, civic, social, athletic, and political groups, clubs, committees, etc., organized both formally and informally.
   - 1.4 Family--includes members of a family unit: parents, children, relatives.

*The categories given under each setting, level, and content are not necessarily exhaustive.

2. Levels of Focus (i.e., the level at which the educational processes or outcomes are considered)

   2.1 Societal--pertains to educational processes and outcomes as they affect or concern society as a whole or a societal body that governs, influences, or is influenced by the educational system.

   2.2 Institutional--pertains to educational processes and outcomes as they affect or concern an educative institution or organization, either public or private, formal or informal.

   2.3 Instructional--pertains to educational processes and outcomes as they affect or concern teachers.

   2.4 Learner--pertains to educational processes and outcomes as they affect or concern learners.

3. Contents (i.e. the aspects of the educational processes or outcomes of concern)

   3.1 Policy--includes rules, procedures, and priorities upon which the educative process or the operations of an educational institution or system are based.

   3.2 (Management) Resources--includes budgets, facilities, staff allocations.

   3.3 Programs/curricula--includes instructional strategies and methods, learning activities.

   3.4 Products--includes various knowledge development and skill training materials.

   3.5 People--includes teachers/instructors, pupils/students, program/curriculum planners and developers, school administrators, R&D specialists, and a variety of professional and support personnel involved with an education institution or the educative process.

The relationship between processes and outcomes and the settings, levels, and contents components is illustrated in Figure 3. As is shown, the domain of education can be thought of as a three-dimensional cube composed of numerous cells, with each cell consisting of a particular combination of setting, level, and content, and encompassing both processes and outcomes. Within any given cell, the evaluation process (illustrated in Figure 1) can be mapped, at least theoretically, thus establishing a relationship between the two dimensions of the conceptual map. We are saying, then, that any of the aspects of education represented by the categories and their intersections on Figure 2 can be evaluated, and any evaluation training product can be classified according to the aspects of evaluation it addresses (Figure 1) and the aspect of education (Figure 2) it uses as the target of the evaluation process described.

We will next present some examples of our classification of the R&D evaluation training materials using this map in order to illustrate its use and to clarify the meanings of its categories.

C. Use of the Conceptual Framework*

To illustrate the relationships between the R&D evaluation training materials, the process of evaluation, and the larger context of education, the training materials were analyzed in terms of their applicability to the evaluation process and their location within the domain of education.

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*It will be noted that no mention is made of the design (II on Figure 1) aspect of evaluation either in the text or tables of our classification of training materials. In the version of the conceptual map we used to classify the training materials, design was included as part of data collection. After we decided to view design more broadly as the planning process applicable to any of the other evaluation activities and include it as a separate category on the conceptual map, we reanalyzed the training materials for their coverage

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For example, the Progress Evaluation Workshop developed by the Center for the Study of Evaluation at UCLA ("CSE 6" in the Consumer Guide) was classified on the evaluation process dimension of the conceptual map as "I, B, III, IV, VI" indicating that it emphasizes focusing (I), collecting (III), analyzing (IV) and reporting (VI) aspects of evaluation done for formative purposes. This classification indicates that we did not feel this product addressed preformative or summative evaluation, administration of evaluation, analysis of constraints on the conduct of the evaluation, or the judgment or interface (relations with people) aspects of evaluation. This classification was derived, in part, from the specified goals and objectives of the product (e.g., "participants will be able to specify the purposes... of the progress evaluation, (and)... will be able to make decisions about the kinds of progress information to gather and the methods to be used in collecting, organizing, analyzing, and reporting that information"). Since this product focused on evaluation of educational programs (c) in schools (A), according to student (e) attainment of objectives (i.e., learner level focus--4), it was classified as "A, 4, c, e" on the domain of education dimension of the conceptual map.

Some products seem to address many aspects of evaluation and/or education while others cover a narrower range. Some products present orientations or general descriptions about types of evaluation while others provide step-by-step

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Con't...
of design in this sense. Although we felt that most of the materials addressing the conduct of the various evaluation activities could be used to train evaluators to plan or design these same activities, we found no materials that provided training specific to the design or planning (as distinct from the actual conduct) of evaluation. For this reason, the design category does not appear in the tables or text. Some people may feel that this is a serious deficiency in existing training materials; others may agree that as long as the need for design is understood, training materials which focus on how to conduct an evaluation could also be used by an evaluator to learn how to design or plan that evaluation.

how-to training. Our classification distinguishes between these two types of materials. Several products provide training in evaluation methods used for particular types of evaluation (e.g., needs assessment survey techniques) independent of any particular educational content or level, and so are classified as of "general applicability" on the education dimension. Some products focus on evaluation methods or skills (e.g., data analysis techniques) independent of any specific type of evaluation, and so are classified as "general methodology" on the evaluation dimension with potential applicability to any of the evaluation types.

It should be remembered that the emphasis in the analyses of the evaluation training materials for the technical paper to NIE (as distinguished from the Consumer Guide to training materials for potential users) is not on describing each product (in terms of its placement on the conceptual map), but rather is on summarizing the density and overlap of coverage of various areas on the conceptual map by existing evaluation training materials in order to facilitate the making of judgments regarding desirable areas for future development of such products. It was not always easy to classify the training materials according to their evaluation and education emphases. Although two raters achieved substantial agreement, other raters might disagree with some of the classifications of individual products. This classification system, then, is most likely to be valid and useful when used for its major intended purpose--indication of the extent of coverage of evaluation and education areas by existing evaluation training materials--rather than for describing individual products. In addition, the conceptual map should provide readers with a blueprint for analyzing a wide range of materials and products (not necessarily just those produced by R&D laboratories and centers) with regard to the density and overlap of their coverage.

II. Classification of Evaluation Training Materials

Tables 1 and 2 present a summary of the number and percent of the training products analyzed that were classified in each category of the evaluation and education domain dimensions of the conceptual map. More detailed analyses showing individual cell frequencies broken down by laboratory producers are included in the appendix (Tables 1a, 2a, and 3a). Also in the appendix (Tables 4a and 5a) are classifications of individual products identified by producer and catalogue number (as specified in the Consumer Guide).

It can be seen in Table 1 (classification of training materials on the evaluation dimension of the conceptual map) that most evaluation training materials developed by R&D laboratories and centers focus on the collection and analysis of data aspects of evaluation. Only about half the products deal with focusing the evaluation (i.e., determining its purposes or the questions it is intended to answer)*, making decisions or judgments on the basis of collected data, or communicating/reporting evaluation information to others. As might be expected, the less technical aspects of evaluation (which are not traditionally considered to be as much a part of evaluation) involving management (22 percent), interpersonal relations (25 percent), or analysis and consideration of constraints on the evaluation (6 percent) are addressed by considerably fewer products. (As can be seen in Table 1a in the appendix, this infrequent coverage of the nontechnical aspects of evaluation

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*Training materials were classified as addressing focus only if they provided training or instruction in determining specific purposes or questions for the evaluation. Materials were not classified as providing a focus emphasis if they just indicated the general purpose or type of evaluation (i.e., preformative, formative, or summative) to be conducted.

TABLE 3. Number and Percent of Products for Each Category of the Evaluation Dimension of the Conceptual Map

(Total number of products classified = 36)

ASPECT OR TYPE OF EVALUATION	PRODUCTS ADDRESSING ASPECT		PRODUCTS SPECIFYING HOW TO PERFORM ASPECT	
	Total Number	Percent	Total Number	Percent
Preformative	15	42%	11	31%
Formative	18	50%	6	17%
Summative	6	17%	2	6%
General Methodology without specific evaluation type	7	19%	6	17%
Collecting Data	33	92%	19	53%
Analyzing Data	26	72%	13	36%
Making Decisions or Judgments	17	47%	7	19%
Reporting Information/ Judgments	16	44%	8	22%
Interface with Users/ Sources of Information of Data	9	25%	4	11%
Focusing Evaluation	20	56%	13	36%
Administering Evaluation	8	22%	4	11%
Determining Constraints on Evaluation	2	6%	0	0%

(e.g. how do people in the community react to the program? does the program provide instruction or training in areas for which there are job markets or national needs?). It is interesting to note that most of the training products analyzed do not specify a "level of focus" at which the educational situation is to be evaluated and do not provide training in how to select the level(s) or how to conduct evaluation specific to the selected level(s). Most of the products that do specify a level focus on the instructional level; none of the products focus on the societal level.

The summaries of the training materials' coverage of evaluation and education aspects (Tables 1 and 2) suggest that there are relatively few products addressing: summative evaluation and the nontechnical aspects of evaluation (especially with specific how-to training), evaluation concerning societal-level and learner-level aspects of education, or evaluation of the community and family aspects of education. This information should be useful to those who need to make decisions about directions for future development of evaluation training materials; however, judgments about the relative importance of the various categories on the evaluation and education dimensions of the conceptual map and about the need for training materials addressing those categories would have to be made before such decisions about development of materials could be made. It must be remembered that this analysis of training products has been relative to a conceptual map representing theoretical intersections of aspects of educational evaluation. The conceptual map was refined on the basis of reviewers' comments so as to represent aspects of educational evaluation and their interrelationships as comprehensively and parsimoniously as possible, but the reviewers made no judgments about the relative importance for evaluators of categories or their intersections. Some

such judgments would have to intervene between the summary data from our analysis and decisions about future product development. Gaps in coverage of certain areas revealed by our analysis do not necessarily mandate the development of training materials to address those areas. In addition, our analysis indicates general trends in overlap and gaps in coverage, but it does not indicate whether products that address the same aspects of evaluation are redundant or complementary, or whether they adequately cover (singly or in combination) the aspect addressed. A detailed content analysis of materials would be necessary to determine, for example, whether there is a need for more training materials on collecting information even though 92 percent of the products analyzed cover that aspect of evaluation.

In the next section of this paper, we will present a detailed example of how an educational situation requiring evaluation can be described in terms of the evaluation and education aspects (of the conceptual map) it involves, and of how the classification of evaluation training materials in terms of the conceptual map can be used to construct possible configurations of training materials to meet the evaluation needs of that educational situation. In order to make more extensive recommendations for development of training products or of configurations of use of existing products, detailed content analysis and field testing of materials and configurations of materials would have to be conducted.

III. An Example of an Educational Situation Described in Terms of Configurations of Evaluation and Education Aspects

In order to present a detailed application of the conceptual map, let us suppose that an educational agency is interested in evaluating an innovation linkage program they are establishing. This program is intended to provide a variety of support services to schools interested in adopting educational innovations. The agency is basically interested in the following elements of the program in terms of evaluation: 1) the background and needs of the schools seeking services from the program, and selection of a subset of these schools for further study; 2) the types of services the program offers as well as when and how it delivers them; 3) the decision-making process that a school undergoes in order to select an appropriate educational innovation; 4) the implementation process that a school undertakes to adopt a selected innovation; and 5) the outcome or impact that the innovation has for the appropriate population (e.g., students, teachers, teacher aides, etc.).

Before we begin our analysis of these various elements in terms of the conceptual map, we should like to point out that in our initial discussion of the evaluation process dimension (Figure 1) of the conceptual map, we described the activities of focusing, administering, interface, and considering institutional or system constraints as preceding or overlapping the other evaluation activities. In the analysis of the elements below, we assume that these activities are embedded throughout the evaluation process we describe. However, for each element, we will point out those evaluation activities we feel would be of particular concern for that element.

Element 1. Schools' Backgrounds and Needs

Element 1 of the evaluation activities described above would involve a preformative (A) type of evaluation. The specific evaluation activities encompassed by this element include: collection of data (III) regarding the

educational problems and needs of the schools involved in the program, their history of innovativeness and the effects of those innovations; the analysis and interpretation of the data (IV) to determine the propensity of the school to innovate as well as characteristics of the school that may facilitate or inhibit implementation and impact of the innovation; and the rendering of judgments or decisions (V) regarding a subset of schools with a high or low degree of success at innovation implementation and use. This element is also concerned with the selection of a subsample of schools for intensive study which would involve focusing (I) and administering (AM) evaluation activities. Constraints (CS) in the evaluation at the various sites would also be a factor which would probably have to be considered in selecting the sites for further evaluation.

Using the educational domain dimension of the conceptual map (Figure 2), we can identify the educational context within which Element 1 will be evaluated as consisting of school settings (A) at the institutional level (2) focusing on policy (a), resources (b), programs/curricula (c), and products (d) content.

The configuration of Element 1 on the conceptual map, then, could be labeled as "A, I, III, IV, V, AM, CS" on the evaluation process dimension and "A, 2, a, b, c, d" on the domain of education dimension.

Element 2. Support Services

The evaluation of this element would be of the formative (B) type that occurs during the activity cycle of the program and provides data that feeds into the program as a basis for improving program design and delivery. The specific evaluation process activities would include for this element: collection of data (III) regarding the types of services provided by the linkage program during each school's decision-making and implementation phases of innovation adoption; the analysis and interpretation of the data (IV)

to provide feedback to the linkage program for improvement of services and program operations; and reporting the results (VI) to the linkage program to provide a basis for modifying, refining, and improving program services.

The evaluation of this particular element is primarily directed toward internal monitoring of the linkage program's activities. Accordingly, administering (AM) should be included as part of the configuration of evaluation components. Constraints (CS) would also be involved since in this case the evaluator is also part of the staff of the educational agency which is developing the innovation linkage system being evaluated. Interface (IF) concerns would be important as the specific needs and characteristics of the people to whom the information is to be reported must be considered.

The educational context in which Element 2 would be evaluated can be defined by using the education domain dimension of the conceptual map. Essentially, this context would consist of professional organization settings (B) at the institutional and instructional level (2,3) focusing on resources (b), programs/curricula (c), products (d), and people (e) content.

The configuration of Element 2 on the dimensions of evaluation and education can, then, be classified as "B, III, IV, VI, AM, CS, IF" on the evaluation process dimension and "B, 3, b, c, d, e" on the education domain dimension.

Element 3. Decision-Making Process

The evaluation of this element is primarily summative (C), though it could also have some aspects of formative (B) evaluation. Essentially, the evaluation would be concerned with the description of program related phenomena that have occured so that future analysis and interpretation can be conducted to determine the utility of such phenomena. However, it is conceivable that the data would be useful in helping the linkage program better integrate its

input and services with the specific decision-making functions that a school progresses through; thus, the evaluation could have a formative cast to it. The specific evaluation process activity involved in the evaluation of this element would consist of the collection of data (III) regarding each school's method of refining and verifying the educational problem they are addressing, its process of reviewing innovations, and what and why a particular innovation was selected. If feedback is to be given to the linkage program, the evaluation activities would also include analysis and interpretation of the data (IV), and reporting the results (VI) to the linkage agent.

The thrust of the evaluation of this element is directed toward the schools as well as the internal program monitoring involved in the previous element and will involve focusing (I) and administering (AM) the evaluation. Since data will be collected from people in the schools, interface (IF) concerns will be important. The constraints (CS) were previously considered for the evaluation of Element 1 and probably do not have to be addressed again for this element.

The educational context in which element 3 would be evaluated consists of the school setting (A) and the institutional level (2) focusing on a policy content (a).

Overall, then, the configuration of Element 3 can be classified as "I, C, III, IV, VI, AM. IF" on the evaluation process dimension of the conceptual map and "A, 2, a" on the education domain dimension of the map.

Element 4. Implementation Process

The evaluation of Element 4 is similar to that of Element 3 in that it could involve both formative (B) and summative (C) types of evaluation. Feedback to the linkage program could enable it to improve its services to a school during the implementation stage and the data could also be used to determine the effectiveness of a school's implementation strategies. The

evaluation process activities include, as with Element 3: the collection of data (III) regarding the process a school undergoes to install an educational innovation, which may include activities such as staff and community orientation (preparation), and, if applicable, acquisition and distribution of materials, staff training, program administration, etc; analysis and interpretation of the data (IV), and reporting the results (VI) to the linkage program for purposes of program modification and improvement.

Internal program activities and school implementation activities will be evaluated, thus the evaluation of this element is similar to the evaluation of the preceding element and the components of focusing, administering, and considering constraints need not be specifically addressed. Note once again, however, that these three components permeate the entire evaluation process and must be continually considered at a general level. Since data will be reported to the linkage program, interface (IF) concerns will be important for this element.

The educational context within which the evaluation of Element 4 will be conducted can be identified on the education domain dimension of the conceptual map as consisting of the school setting (A) at the institutional level (2) and focusing on policy (a) and people (e) content.

The overall configuration of Element 4 on the evaluation and education dimensions can, then, be classified as "B, C, III, IV, VI, IF" on the evaluation process dimension and "A, 2, a, e" on the education domain dimension.

Element 5. Innovation Outcomes

The evaluation of this element in many respects subsumes the previous elements. It is a summative (C) type and can use the data from the previous elements as a part of its process activities. These activities include: the collection of data (III) regarding the impact of the innovation in terms

of student performance in the problem area, teacher behavior, and community involvement; analysis and interpretation of this data (IV) in terms of changes in the scope and intensity of the educational problem being addressed in each school, and changes in teacher behavior, student performance, and community involvement; judgments and decisions (V) regarding the types of schools that most effectively used the support services of the linkage program, the utility of support service delivery by the linkage system, the relationship of implementation methods and implementation outcomes, and the contribution of the linkage program to the implementation process at each of the schools; and the reporting and dissemination of the results (VI) of the evaluation to policy makers with recommendations regarding funding of similar programs and alternative program designs.

This particular element is virtually an extension of the previous elements with some unique facets of its own that contribute to the evaluation problem (e.g., collecting information on teacher behavior and student outcomes). The evaluation process components of focusing and administration should entail much the same considerations as were involved in Elements 3 and 4. The component constraints (CS), however, may have to be considered anew, as the release of the final report has implications for educational policy and funding which may have political undertones. Interface (IF) concerns are of particular importance for this element as data will be collected from and reported to a variety of people.

In terms of the education domain dimension, the evaluation of Element 5 will occur in the educational context of schools (A), professional organizations (B), and community settings (C) at the institutional (2), instructional (3), and learner (4) levels, focusing on policy (a), resources (b), programs/curricula (c), products (d), and people (e) contents.

The evaluation of Element 5 has a general configuration on the dimensions of evaluation and education that can be labeled as "C, III, IV, V, VI, IF, CS" for the evaluation process dimension and "A, B, C, 2, 3, 4, a, b, c, d, e" on the education domain dimension.

IV. Examples of Configurations of Evaluation Training Materials to Fit Configurations of Evaluation Functions

Now that we have demonstrated how an educational evaluation situation may be described in terms of configurations of job functions or activities (evaluation processes within educational contexts which are delineated by components of the conceptual map), we will illustrate briefly how configurations of evaluation training materials appropriate to the job function configurations can be identified. Since an evaluation training program is unlikely to have such a specific job function focus, we will then present some example configurations of materials that might be appropriate for the more likely program which would be designed to provide training in a much broader range of educational evaluation functions and activities.

A. Configurations of Materials to Fit a Specific Evaluation Function Configuration

We would not expect to find evaluation training materials specifically tailored to all aspects of any particular evaluation job. In selecting configurations of training materials most appropriate for the configuration of evaluation and education aspects of a job function, it is important to decide what aspects of the job function most need direct relevant training. Taking one of the simpler elements (Element 1) of the evaluation of the innovation linkage program described above as an example of a specific evaluation function configuration for which we want to find relevant training materials, we find that there are several evaluation training materials available that address some of the aspects of evaluation involved in this element, but none that address all of them. There are many possible configurations of relevant training materials, depending upon what aspects of the job function are considered to most directly need applicable training. Figure 4 presents a summary of the possible configurations described below.

Figure 4. Examples of Configurations of Training Materials Appropriate for Innovation Linkage Program, Element 1 Evaluation Needs

Configuration	Training material (coded to Consumer's Guide)	Aspect(s) of evaluation addressed
I)	CSE 9	conducting needs assessment at institutional level in school setting
	RBS 4	focusing, administering, and conducting needs assessment at learner level in school setting
II)	CSE 2	orientation to needs assessment in school setting
	CSE 3	administering and conducting needs assessment in school setting
	CEPM 5	analysis and interpretation of data relevant to needs assessment at institutional level in school setting
III)	RBS 5	administering and conducting evaluation in school setting
	CSE 3 or CSE 9	administering and conducting needs assessment in school setting; conducting needs assessment at institutional level in school setting
IV)	FWL 13	conducting evaluation
	FWL 14	instrumentation for evaluation and conducting evaluation
	FWL 15	administering and conducting evaluation
	CEPM 3	conducting evaluation in school setting
	CSE 9 or RBS 4	conducting needs assessment at institutional level in school setting; focusing, administering, and conducting needs assessment at learner level in school setting

If, for example, we decide that it is necessary to have training in the evaluation concepts and procedures specific to preformative (A) evaluation at the institutional (2) level within a school (A) setting, the CSE Needs Assessment Kit (CSE 9 in the Consumer's Guide) seems most appropriate, for there is a reasonably close match between the configuration of evaluation and education aspects of the job function ("I, A, III, IV, V, AM, CS/A, 2, a, b, c") and that of the training material ("A, III, IV, V, VI/A, 2, 3, a, b, c"). Both the training needs and materials involve collection and analysis of data about school policy, resource and program needs and decision-making about the adequacy with which these needs are being met. However, CSE 9 would not be completely adequate by itself because it does not include training in focusing (I), administering (AM) or analyzing constraints (CS) on the evaluation. The RBS Pupil-Perceived Needs Assessment Package (RBS 4) might be a useful complement to CSE-9 as it does address focusing, administering and analysis of constraints in preformative evaluation conducted in a school setting, though (as indicated by its title and its description in the Consumer's Guide) it limits its focus to pupil perceptions of needs. As can be seen in Table 4a (Appendix C), there are several training materials that address aspects of preformative evaluation and could provide training relevant to the preformative evaluation functions needed in Element 1 of the innovation linkage program evaluation. For example, one might combine the CSE Orientation and Needs Assessment Workshops (CSE 2 and CSE 3 respectively) to provide an overview of evaluation (including needs assessment) as well as training in specific techniques used in needs assessment. Combining these two workshops, the trainee would receive training relevant to focusing (I) and administering (AM) evaluations as well as to the collection and interpretation of data. However, though these

workshops deal specifically with preformative evaluation, neither of them focuses on evaluation at the institutional level, which is the major thrust of this element of the innovation program evaluation. The Assessing Achievement of the District's Broad Goals packet (CEPM 5), which does focus on institutional (and instructional) level evaluation, could be a very useful supplement to the CSE workshops. CEPM 5 by itself would probably not be sufficient for the needs of Element 1, since it does not cover the actual techniques of needs assessment in as much detail as the CSE workshops. Evaluating a Curriculum Program (RBS 5), which addresses general planning, implementing and administering evaluations in a school setting with training materials that deal more specifically with preformative evaluation techniques in school settings, such as CSE 3 or CSE 9.

Another approach would be to use materials that provide detailed training techniques of evaluation planning and implementation but do not emphasize the special problems or needs of evaluation done in school settings or by school personnel. A series of FWL modules (e.g. FWL 13: Measurement and Testing, FWL 14: Design of Evaluation Instruments and FWL 15: Planning and Implementing Evaluation) could be useful in this regard, but probably should be combined with materials that focus on school settings, such as CEPM 3: Instructional Program Planning, Evaluation and Communication and perhaps with materials that focus on needs assessment, such as CSE 4 or RBS 4.

It can be seen from this discussion of possible configurations of training materials appropriate for the configuration of evaluation requirements of a specific evaluation job function (Element 1 of the innovation linkage program evaluation) that there are many possible materials configurations and that selection of a desirable configuration depends upon the

particular aspects of the job functions that are felt to need directly and specifically relevant training. It is unlikely that any training material or configuration of materials will fit highly specific evaluation training needs precisely; even a well-chosen configuration of materials may have to be supplemented by instruction and application tailored to those specific needs. But it is important to be able to select configurations of training materials that are as appropriate as possible. It should be remembered, then, that though the classification of training materials in terms of the conceptual map (the classification presented in Tables 4a-6a in Appendix C) should be useful in identifying configurations of materials likely to be appropriate for configurations of evaluation functions, content analysis (or at least consideration of descriptions) of individual materials would also be important.

B. Configurations of Materials to Fit Broad Evaluation Training Needs

Since few evaluation training programs are likely to have such a specific job function focus as described in the preceding section, we will now present some examples of possible configurations of training materials that might be appropriate for a program designed to provide training in a much broader range of educational evaluation functions and activities. The classification of materials in terms of the conceptual map would probably be more useful in selecting configurations for more narrow and specific needs, since the particular content focus of the materials would not be so important.

For example, if a program were concentrating on formative evaluation, one could select a configuration of materials which would provide a balance of 1) detailed procedures and methods (e.g. instrument development, data analysis) of evaluation in general, 2) specific problems, concerns and methods of

formative evaluation and 3) specific problems, concerns and methods of different types of formative evaluation (e.g. product evaluation, program evaluation, evaluation in school settings). There would be many possible configurations of materials which would present such a balance of training. Figure 5 presents some of these possibilities.

Figure 5. Examples of Configurations of Training Materials Appropriate for Training Program with Formative Evaluation Focus

Configuration	Training material (coded to Consumer's Guide)	Aspect(s) of evaluation addressed
I)	FWL 8	introduction to types and purposes of evaluation
	FWL 10	data analysis and collection methods
	FWL 11	detailed purposes and procedures of formative evaluation
	SEDL 1	managing and conducting product formative evaluation
II)	CSE 2	orientation to types and purposes of evaluation
	FWL 13	measurement and testing methods
	CSE 5	detailed purposes and procedures of formative (implementation) evaluation
	RBS 2	managing and conducting program formative evaluation
III)	CEPM 3	introduction to types, purposes, and methods of evaluation
	SWRL 1	research and evaluation methods
	CSE 6	detailed purposes and procedures of formative (progress) evaluation
	SWRL 2	managing and conducting product formative evaluation

Similar configurations could be suggested for other training program evaluation thrusts, such as specification and evaluation of learning outcomes, reporting evaluation results, maintaining smooth relations with people involved in the evaluation process (i.e. interface), planning and construction of evaluation instruments, etc. In all these cases, configurations of training materials could be selected by reference to the classification of these materials on the conceptual map of educational evaluation. However, several admonitions should be made regarding prescription of training materials based solely on the classification of those materials relevant to the conceptual mpa.

First, in order to determine the feasibility of using particular materials as well as their compatibility and complementarity with each other, one would need to know about several pragmatic aspects of the materials not included on the conceptual map, such as cost, time and resource requirements and intended users. This information could be found by looking at the product descriptions in the Consumer's Guide.

In addition, it would be important to read the Consumer's Guide descriptions or to look at the materials themselves in order to find out more about the specific content. The goals and objectives, instructional format and learning activities and user prerequisites would all be important aspects of a training product to consider in selecting product configurations. Information about these aspects is, in most cases, available in the Consumer's Guide; however, it would probably be very useful for a program planner trying to establish configurations of materials to supplement use of the conceptual map and the Consumer's Guide with a detailed content analysis to determine a material's content and approach.

It would be, of course, very important to know something about the quality of materials before selecting configurations. In the Consumer's Guide, statements were made as to how products could be best used, but judgments of quality or adequacy were carefully avoided or downplayed. So, any judgments of quality would have to be made or arranged by program planners themselves. Several possible criteria and methods to use in making these judgments are suggested below:

- judged accuracy of field testing procedures reported in the Consumer's Guide;
- results of field testing reported in the Consumer's Guide or obtainable from product developers;
- internal consistency of goals, objectives, content and learning activities as determined by content analysis;
- appropriateness for target audience: clarity, level, degree of conceptual or practical application emphasis;
- depth and breadth of coverage;
- validity of content as determined by evaluation expert;
- practicality of content as determined by experienced evaluator;
- adaptability of materials to particular program and individual needs.

Anyone selecting configurations of training materials for evaluation training programs would probably need to consider these various aspects of the materials that are not reflected in the classification of materials on the conceptual map. However, as we have shown, that classification can be very useful in at least preliminary selection.

V. Conclusion

The conceptual framework of educational evaluation presented in this paper has helped us develop some of the categories of description we used in the Consumer's Guide to Evaluation Training Materials and seems to be useful for classifying and analyzing evaluation job functions and evaluation training materials. Classification of existing evaluation training materials produced by educational laboratories or R&D centers in terms of this framework has led us to tentative conclusions about areas or aspects of educational evaluation that are or are not covered by these materials. These conclusions should provide some useful input for those who will make decisions about future development of evaluation training materials. We have also shown how classification of training needs and materials with this conceptual framework might help someone suggest possible configurations of training materials appropriate for configurations of training needs. However, in order to more adequately determine desirable future decisions for product development or appropriate configurations of existing materials, additional analyses would have to be undertaken. For either type of decision about training materials, analyses of product content and quality (e.g. detailed content analyses, analysis of products in operation) and analysis of a broader range of available products (not limited to those produced by educational laboratories and R&D centers) would have to be conducted. In addition, to determine directions for future development, judgments would have to be made about the relative importance of the various areas and aspects of educational evaluation delineated in the conceptual framework.

APPENDIX A

Sample Product Description

CSE EVALUATION WORKSHOP I: AN ORIENTATION (Evaluation Technologies Program)

INTENDED USERS

Educational personnel including: superintendents, evaluation specialists, project directors, and other administrators; teachers; graduate students; researchers and curriculum and program developers; and project monitors. Individuals involved in evaluation in social action programs, such as health and social sciences, have also found participation beneficial.

TYPE OF EVALUATION ADDRESSED

The workshop treats activities and procedures appropriate to different phases of evaluation: needs assessment, program planning, formative evaluation, and summative evaluation.

APPROACH TO EVALUATION

The workshop expresses the viewpoint that the purpose of evaluation is to provide information that will facilitate and improve educational decision-making at all levels. Evaluation questions are related to four major phases of program's cycle: needs assessment, program planning, formative evaluation, summative evaluation.

MAIN EMPHASIS

The workshop focuses on major steps and components in the evaluation of educational programs.

GOALS AND OBJECTIVES

Major workshop goals are to enable participants to understand what kinds of information an evaluation can provide for educational decision-making; and to understand the general procedures and problems involved in selecting, collecting, analyzing, and reporting that information.

Participants become familiar with what is involved in: conducting a needs assessment, building the evaluation design into a program plan, determining whether a program is being implemented properly, assessing its progress, and presenting evaluation data to different audiences.

MAIN ACTIVITIES

Participants are first given instruction in a phase of the evaluation process, then work with other team members to solve a problem common in that phase. After this exercise, the workshop leader provides concrete feedback on how this problem could have been handled and conducts a discussion of alternative solutions.

PROVISIONS FOR USE

A. Format: Workshop

B. Personnel Needed: Requires a leader familiar with workshop material either as a result of professional evaluation experience or previous participation in a workshop session. Upon user request, CSE can supply a workshop leader.

One qualified leader for every 30 - 45 participants is required. An assistant familiar with the workshop is recommended if there are more than 30 participants.

C. Product Components: A Leader's Manual describing the step-by-step procedures for organizing and conducting the workshop; a Participant's Notebook for each learner containing instruction, reference, and reading materials; one set of exercises for each three participants; and pre- and post-tests for each participant.

D. Resources: A blackboard and other classroom equipment is recommended; refreshments and lunch served close to workshop location assists the leader in keeping with a tight schedule.

E. Time Needed: Two full days of instruction (approximately 14 hours). It may be adapted to a series of 4-hour sessions.

F. Conditions of Use: To conduct a workshop, an individual should have participated in a previous session or have sufficient evaluation experience and familiarity with workshop content.

In most situations, a minimum of 21 individuals should participate. It is desirable that the entire group of participants participate in the entire session since teams of three work on exercises together throughout.

ADAPTABILITY

The workshop can be used in a variety of organizational settings. Groups of individuals from a number of different organizations and levels of experience can participate in one session; an organization can use the materials to train its entire staff; a professor can use the materials in a course for graduate students. The workshop may also be incorporated in a longer evaluation training session run by CSE which includes instruction tailored to a particular group's needs and interests. This workshop can be used separately or in conjunction with other program materials.

RELATED PRODUCTS

Other CSE workshops; and FWL, Evaluation for Program Improvement.

COST

Range of cost is as stated on page 2. A full set of materials for the workshop consists of:

Participant's Notebooks (1 per participant, reusable reference); Exercise Pads (1 per team of 3); Pre- and Post-tests (1 pair per participant); Leader's Manual (1 per leader); Audio tape (optional--1 per leader, included with Manual, reusable).

AVAILABILITY

The workshop is available from CSE Field Services.

HISTORY AND EVALUATION

Formulation of the workshop's content and organization was guided by the CSE view of the evaluation process. This view, in turn, was generated by CSE's experience in conducting educational evaluations as well as by the writings of recognized experts in the field and the suggestions of educational administrators and evaluators.

The first draft of the workshop went through a series of feasibility tests to determine its appropriateness for the target audiences and to identify components needing modification. When the necessary revisions were made, the workshop was field tested by CSE staff to ensure that it achieved its objectives. At the conclusion of the field testing, the workshop was again revised and then released for operational testing. The operational testing was conducted by non-CSE staff and provided a check on whether the workshop still achieved its objectives in its final form and under the wide range of conditions in which it would eventually be used. A follow-up impact study was also conducted in order to be certain that the participants used the workshop training and materials on their jobs. These field tryouts involved over 10,000 participants from numerous local, state, and federal agencies across the country.

Information obtained from the pre- and post-testing, the questionnaires, and the impact study indicates that the training is valued by the participants, that many of the participants use the materials and implement the procedures after the workshop, and that the individuals would recommend the workshop to their colleagues and would themselves participate in additional workshops developed in the series.

In addition to development and field testing of the participant's materials, the Leader's Manual for the workshop was thoroughly field tested. Once having participated in a workshop, an educational professional can competently train colleagues. Data indicate that workshop leaders conduct the session in the manner prescribed in the Manual.

COMMENT

Testing of the CSE Evaluation Workshop I has been extremely thorough. It has included evaluation of the amount of use participants have made of the materials in their own settings, and of the ability of inexperienced leaders to conduct successful workshops. The materials themselves are convenient, attractive, and clearly written and organized.

The problems and activities described in the case study are those that a single evaluator rather than an evaluation committee, would have to deal with. There is a strong emphasis on evaluation design. The materials present a great deal of detailed information. Developers assume that participants will retain their copies of the materials, and it would probably be necessary to have them available for reference to use the skills covered in the Workshop. The case study focuses on traditional versus modern conflicts rather than ethnic or racial problems. The case study also features no females in positions of authority.

APPENDIX B

Index and List of Products

Described

• Training Materials in this Guide

Center for Educational Policy Management (CEPM)

1 School Planning, Evaluation, and Communication System (SPECS)

2 A Systems Analysis of a School District (SPECS I)

3 Program Planning, Evaluation and Communication (SPECS III)

4 Community Based Broad Goal Definition (SPECS IV)

5 Assessing Achievement of the District's Broad Goals (SPECS V)

6 Strategies of Organizational Change System

7 Technology for Organizational Change Specialists

Center for the Study of Evaluation (CSE)

1 The Evaluation Technologies Program

2 CSE Evaluation Workshop I: An Orientation

3 CSE Evaluation Workshop II: Needs Assessment

4 CSE Evaluation Workshop III: Program Planning

5 CSE Evaluation Workshop IV: Implementation Evaluation

6 CSE Evaluation Workshop V: Progress Evaluation

7 CSE Evaluation Workshop VI: Outcome Evaluation

8 CSE Elementary School Evaluation Kit: Needs Assessment

9 CSE Needs Assessment Kit

10 CSE Program Planning Kit

11 CSE Program Evaluation Kit

Far West Laboratory for Educational Research and Development (FWL)

1 The Educational Management Program

2 Analyzing Problems (Unit 2)

3 Evaluation for Program Improvement (Unit 5)

4 Development, Dissemination, and Evaluation (DD&E) Training Resources

5 DD&E Series 1: Planning

6 DD&E Module 1.1: Problem Definition and Specification of Outcomes

7 DD&E Module 1.2: Consideration of Alternatives

8 DD&E Module 1.4: Introduction to Evaluation

9 DD&E Series 2: Information/Data Collection and Organization

10 DD&E Module 2.2: Data Management

11 DD&E Module 4.4: Review, Tryout, and Revision

12 DD&E Series 5: Evaluation

13 DD&E Module 5.2: Measurement and Testing for Developers and Evaluators

14 DD&E Module 5.3: Design of Evaluation Instruments

15 DD&E Module 5.4 Planning and Implementing Evaluation

16 DD&E Module 5.5: Evaluation Problems

Northwest Regional Educational Laboratory (NWREL)

1 Objective Analysis and Planned Change Series

2 Research Utilizing Problem Solving (RUPS)

3 Preparing Educational Training Consultants (PETC) series

4 PETC:3 - Organizational Development

Research for Better Schools, Inc. (RBS)

1 Inventory for Curriculum and Instructional Improvement

2 Handbook of Comprehensive Planning in Schools

3 Surveying Your Community

4 Pupil Perceived Needs Assessment Package

5 Evaluating a Curriculum Program

6 Curriculum and Instruction: Planning Improvement

Southwest Educational Development Laboratory (SEDL)

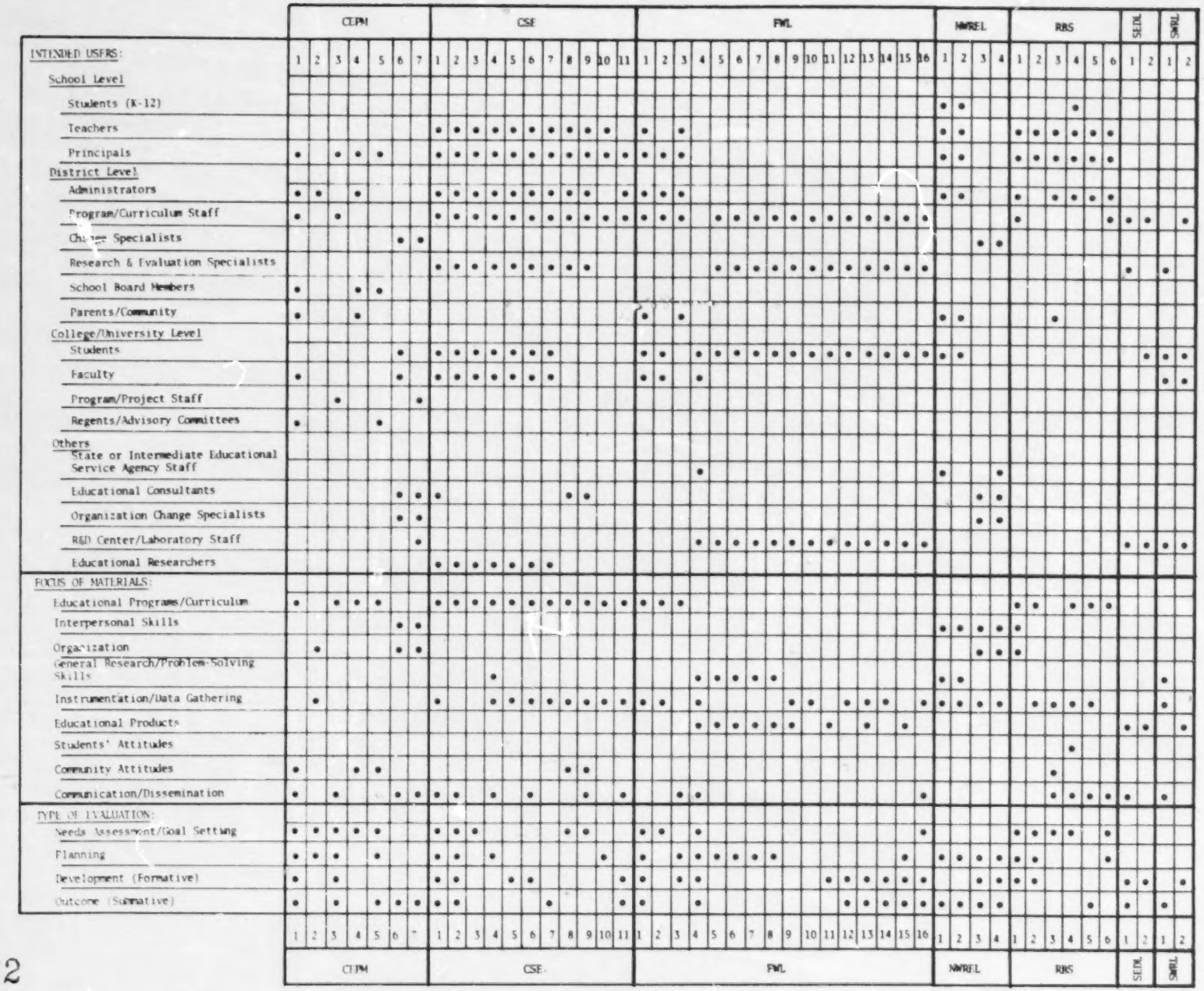
1 CALIPERS

2 A Developmental Process

Southwest Regional Laboratory (SWRL)

1 Instructional Product Research

2 Instructional Product Development



	CEPM							CSE										FWL															NWREL				RBS						SEDL		TASC	
INTENDED USERS:	1	2	3	4	5	6	7	1	2	3	4	5	6	7	8	9	10	11	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	1	2	3	4	1	2	3	4	5	6	1	2	1	2
School Level																																															
Students (K-12)																																			•	•					•							
Teachers								•	•	•	•	•	•	•	•	•	•		•		•														•	•			•	•	•	•	•	•				
Principals	•		•	•	•			•	•	•	•	•	•	•	•	•	•	•	•	•	•														•	•			•	•	•	•	•	•				
District Level																																															
Administrators	•	•		•				•	•	•	•	•	•	•	•	•		•	•	•	•														•	•			•		•	•	•	•				
Program/Curriculum Staff	•		•					•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•					•					•	•		•
Change Specialists						•	•																															•	•							
Research & Evaluation Specialists								•	•	•	•	•	•	•	•	•						•	•	•	•	•	•	•	•	•	•	•	•									•		•		
School Board Members	•			•	•																																									
Parents/Community	•			•															•		•														•	•					•							
College/University Level																																															
Students						•		•	•	•	•	•	•	•					•	•		•	•	•	•	•	•	•	•	•	•	•	•	•	•									•		•	•
Faculty	•					•		•	•	•	•	•	•	•					•	•		•																							•		•	•
Program/Project Staff			•				•																																								
Regents/Advisory Committees	•				•																																										
Others																																															
State or Intermediate Educational Service Agency Staff																					•														•			•									
Educational Consultants						•	•	•							•	•																			•		•	•								
Organization Change Specialists						•	•																														•	•								
R&D Center/Laboratory Staff							•														•	•	•	•	•	•	•	•	•	•	•	•	•			•	•					•	•	•	•
Educational Researchers								•	•	•	•	•	•	•																																	
FOCUS OF MATERIALS:																																														
Educational Programs/Curriculum	•		•	•	•			•	•	•	•	•	•	•	•	•	•	•	•	•	•																	•	•		•	•	•				
Interpersonal Skills						•	•																												•	•	•	•	•							
Organization		•				•	•																														•	•	•							
General Research/Problem-Solving Skills											•											•	•	•	•	•									•	•									•	
Instrumentation/Data Gathering		•						•			•	•	•	•	•	•	•	•	•	•		•				•	•		•	•	•		•	•	•	•		•	•	•	•			•	
Educational Products																						•	•	•	•	•	•		•		•		•									•	•		•
Students' Attitudes																																														
Community Attitudes	•			•	•										•	•																					•									
Communication/Dissemination	•		•			•	•	•	•		•		•			•		•		•	•													•					•	•	•	•	•		•		
TYPE OF EVALUATION:																																														
Needs Assessment/Goal Setting	•	•	•	•	•			•	•	•					•	•			•	•		•																	•	•	•	•		•				
Planning	•	•	•		•			•	•		•						•		•		•	•	•	•	•	•									•	•	•	•	•	•			•			
Development (Formative)	•		•					•	•			•	•					•	•		•	•							•	•	•	•	•	•			•	•					•	•		•
Outcome (Summative)	•		•		•	•	•	•	•				•					•	•		•								•	•	•	•	•	•			•	•					•		•	
	1	2	3	4	5	6	7	1	2	3	4	5	6	7	8	9	10	11	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	1	2	3	4	1	2	3	4	5	6	1	2	1	2
	CEPM							CSE											FWL																NWREL				RBS						SEDL		TASC	

APPENDIX C

Analytical Tables

TABLE 1a. Number of Products by Agency (Lab or Center) for Type x Aspect Cells of Evaluation Dimension of Conceptual Map

(numbers in parentheses are for products which provide specific how-to-training)

Type or Purpose of Evaluation (Laboratory produce)	Aspect of Evaluation: Collect	Analyze	Judge/ Decide	Report	Total # of Different Products
Preformative					
CEPM	2(2)	1(1)	1(0)	1(0)	3(3)
CSE	4(2)	3(2)	2(2)	2(0)	4(3)
FWL	3(1)	2(0)	2(0)	1(0)	3(1)
NWREL	1(1)	1(0)	0(0)	0(0)	1(1)
RBS	3(3)	3(3)	3(2)	2(2)	4(3)
SEDL	0(0)	0(0)	0(0)	0(0)	0(0)
SWRL	0(0)	0(0)	0(0)	0(0)	0(0)
Σ	13(9)	10(6)	3(4)	6(2)	15(11)
Formative					
CEPM	2(1)	1(0)	2(0)	1(0)	2(1)
CSE	5(2)	4(1)	0(0)	4(2)	5(2)
FWL	5(1)	4(0)	2(0)	1(0)	5(1)
NWREL	0(0)	0(0)	0(0)	0(0)	0(0)
RBS	2(1)	2(1)	2(1)	2(2)	4(2)
SEDL	1(0)	1(0)	1(0)	1(0)	1(0)
SWRL	1(0)	0(0)	1(0)	0(0)	1(0)
Σ	16(5)	12(2)	8(1)	9(4)	18(6)
Sumative					
CEPM	1(0)	1(0)	0(0)	0(0)	1(0)
CSE	3(2)	3(2)	0(0)	3(2)	3(2)
FWL	1(0)	1(0)	1(0)	0(0)	1(0)
NWREL	0(0)	0(0)	0(0)	0(0)	0(0)
SWREL	0(0)	0(0)	0(0)	0(0)	0(0)
Σ	6(2)	6(2)	2(0)	4(2)	6(2)
General Methodology Without Specific Type or Purpose					
CEPM	0(0)	0(0)	0(0)	0(0)	0(0)
CSE	0(0)	0(0)	0(0)	0(0)	0(0)
FWL	4(3)	3(2)	1(1)	1(1)	4(3)
NWREL	1(1)	1(1)	1(1)	0(0)	1(1)
RBS	1(1)	1(1)	1(1)	1(1)	1(1)
SEDL	0(0)	0(0)	0(0)	0(0)	0(0)
SWRL	1(1)	1(1)	0(0)	1(1)	1(1)
Σ	7(6)	6(5)	3(3)	3(3)	7(6)
Total # of Different Products	33(19)	26(13)	17(7)	16(8)	36(23)

TABLE 2a. Number of Products by Agency for Cells of Evaluation Dimension of Conceptual Map

(numbers in parentheses are for products which provide specific how-to training)

LABORATORY PRODUCER	ASPECT OF EVALUATION			
	Focus	Interface	Administer	Determine Constraints
CEPM	1(1)	1(0)	0(0)	0(0)
CSE	6(4)	1(0)	4(2)	1(0)
FWL	7(3)	2(0)	1(1)	0(0)
NWREL	0(0)	2(2)	0(0)	0(0)
RBS	4(4)	2(2)	2(1)	1(0)
SEDL	1(0)	1(0)	1(0)	0(0)
SWRL	1(1)	0(0)	0(0)	0(0)
Total number of different products	20(13)	9(4)	8(4)	2(0)

TABLE 3a. Number of Products by Agency for Cells of Education Dimension of Conceptual Map

SETTINGS \ CONTENT / LEVEL	POLICY				Σ	RESOURCES				Σ	PROGRAM				Σ	PRODUCT				Σ	PEOPLE				Σ	GENERAL				Σ	TOTAL				Σ
	It	In	L	G		It	In	L	G		It	In	L	G		It	In	L	G		It	In	L	G		It	In	L	G		It	In	L	G	
Schools:																																	
CEPM	3	2	0	0	5	1	0	0	0	1	2	2	1	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	3	1	0	5
CSL	3	3	1	0	4	3	3	0	0	3	4	5	2	3	9	0	0	0	0	0	1	2	1	0	2	0	0	0	0	0	4	5	2	9
FvL	0	1	1	1	2	0	0	0	0	0	0	1	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	2	2
NWCL	1	0	0	0	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2	2
RES	1	2	1	1	4	0	0	0	0	0	0	2	1	1	2	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1	2	1	3	5
SEDL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1
SWRL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
Σ	8	8	3	2	14	5	3	0	0	5	6	10	6	6	17	0	0	0	1	1	1	2	1	1	3	0	0	0	1	2	10	11	5	10	25
Professional Organizations:																																	
CEPM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CSL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FvL	0	0	0	0	0	0	0	0	0	0	0	1	1	1	2	0	1	1	3	4	0	1	2	0	2	0	0	0	5	5	0	1	2	3	10
NWCL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEDL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SWRL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	1	1	0	0	0	1	1	0	0	0	2	2
Σ	0	0	0	0	0	0	0	0	0	0	0	1	1	1	2	0	1	1	6	7	0	1	2	0	2	0	0	0	5	5	0	1	2	12	14
Community:																																	
CLPM	2	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	2
CSL	1	1	1	0	2	1	1	0	0	1	1	1	1	0	2	0	0	0	0	0	1	1	0	0	1	0	0	0	0	0	1	1	1	0	2
FvL	0	0	0	1	1	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
NWCL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RES	1	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
SEDL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SWRL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Σ	4	3	1	2	6	1	1	0	0	1	1	1	1	1	3	0	0	0	0	0	1	1	0	0	1	0	0	0	0	0	4	3	1	2	6
Total number of different products	8	8	3	2	14	5	3	0	0	5	6	11	6	6	19	0	1	1	6	7	1	2	3	1	5	0	0	0	7	7	10	12	7	23	31

Table 4a. Specific Products Classified In Type x Aspect Cells Of Evaluation Dimension Of Conceptual Map

(* indicates products which provide specific how-to training)

Aspect of Evaluation

Type or Purpose of Evaluation	Collect	Analyze	Judge/ Decide	Report
Preformative	CEPM-2*4* CSE-2,3,9* FWL-2*, 6, 7 NWREL-4* RBS-2*,3*, 4*	CEPM-5* CSE-2,3*9* FWL-6,7 NWREL-4 RBS-2*,3* 4*	CEPM-5 CSE-3*9* FWL-6,7 RBS-2*, 3*, 6	CEPM-2 CSE-2,9* FWL-7 RBS-3*, 4*
Formative	CEPM-3*,6 CSE-2,5*, 6,10, 11* FWL-3,8, 11, 14*, 15 RBS-2,3* SEDL-1 SWRL-2	CEPM-3 CSE-2,5, 6,11* FWL-3,8, 11,15 RBS-2*,3* SEDL-1	CEPM-3,6 FWL-8,11 RBS-3*,6 SEDL-1 SWRL-2	CEPM-3 CSE-2,5*, 6,11* FWL-11 RBS-3*,4* SEDL-1
Summative	CEPM-7 CSE-2,7*, 11* FWL-8 SEDL-1	CEPM-7 CSE-2,7*, 11* FWL-8 SEDL-1	FWL-8 SEDL-1	CSE-2,7*, 11* SEDL-1
General Methodology Without Specific Type or Purpose	FWL-10*, 13, 14*, 16* NWREL-2* RBS-5* SWRL-1*	FWL-10*, 13, 16* NWREL-2* RBS-5* SWRL-1*	FWL-16* NWREL-2* RBS-5*	FWL-10* RBS-5* SWRL-1*

Table 5a. Specific Products In Cells Of Evaluation Dimension Of Conceptual Map

(* indicates products which provide specific how-to training)

Aspect of Evaluation			
Focus	Interface	Administer	Determine Constraints
CEPM-2*	CEPM-4	CSE-3,6*,10*,11	CSE-4
CSE-2,4*,6*,7*,11*	CSE-10	FWL-15*	RBS-4
FWL-2*,3,6,8,11,15* 16*	FWL-3,13	RBS-2,4*	
RBS-2*,3*,4*,5*	NWREL-2*,4*	SEDL-1	
SEDL-1	RBS-3*,4*		
SWRL-2*	SEDL-1		

Table 6a. Specific Products Addressing Categories On Educational Dimension Of Conceptual Map

Settings	
Schools	CEPM-2,3,4,5,6 CSE-2,3,4,5,6,7,9,10,11 RBS-2,3,4,5,6 SEDL-1 SWRL-1
Professional Organizers	FWL-4,6,7,8,10,11,13,14,15,16 SEDL-1,2, SWRL-1,2
Community	CEPM-4,5, CSE-3,9 FWL-3 RBS-3
Family	
Contents	
Policy	CEPM-4,5,6, CSE-3,4,9,10 FWL-2,3, NWRL-4 RBS-2,3,4,6
Resources	CEPM-2 CSE-5,9,10 NWREL-4
Programs/Curricula	CEPM-2,3,5 CSE-2,3,4,5,6,7,9,10,11 FWL-2,3,8,14 RBS-2,5,6
Products	FWL-8,11,14,15 SEDL-1,2 SWRL-2
People	CSE-6,9 FWL-13,14 RBS-4
General (no specific content)	FWL-4,6,7,10,16 NWREL-2 SWRL-1
Levels	
Societal	
Institutional	CEPM-2,4,5,6 CSE-4,5,9,10 NWRL-4 RBS-3
Instructional	CEPM-3,4,5 CSE-4,5,9,10 FWL-2,14 RBS-2,6
Learner	CEPM-3 CSE-3,6 FWL-2,13,14 RBS-6
General (no specific level focus)	CSE-2,7,11 FWL-3,4,6,7,8,10,11,15,16 NWREL-2 RBS-3,4,5 SEDL-1,2 SWRL-1,2